REMARKS

The Examiner has objected to the Specification due to a misspelling on page 11. Appropriate amendment to the paragraph is submitted herewith.

The Examiner has rejected Claims 1-10 based on the previously-submitted amendments. The Examiner contends that the limitation "along with the original video content without altering the original video content" is not disclosed in the original Specification. Applicants respectfully assert that the invention, as originally taught and claimed, comprises a system and method whereby the video signal is provided with at least one time stamped acoustic identification of the content of the audio associated with the video signal. The output, as detailed on page 9, lines 14-16, from the visual speech recognition component comprises time-stamped articulatory types. Similarly, the output from the audio processing, as detailed at the top of page 10 and alternatively at the top of page 11, comprises time stamped articulatory types which have been identified from the audio input.

Time stamping is a signal processing technique which is understood in the relevant art to augment the original signal but not change the signal content, be it audio content or video content. Time stamping simply marks time increments in the

YOR920000131   7

signal.   The claimed time stamping uniquely marks the signal by providing an acoustic identification time stamp.   The original signal content, be it the original video content or the original audio content, is not changed by the acoustic identification time stamping.   What Applicants tried to convey with the claims' amendments is that the present invention provides the unique time stamped acoustic identifications to the video and audio signals without altering the video and audio content, respectively. Applicants agree with the Examiner's contention that the signal is altered by the inclusion of the time stamped acoustic identifications.   Accordingly, Applicants intentionally chose the language of the amendments so that it could be understood that, while the video signal is being altered by the unique time stamping, the video content of the signal is unaltered by the inclusion of the at least one time stamped acoustic identification.   Applicants acknowledge that the term "original video content" is not found in the specification as originally filed.   However, Applicants respectfully assert that it is inherent that a video signal has video content; that it is well known that time stamping may alter the video signal but does not alter the video content of the video signal; and, that the claim amendments simply recite that inherent and well known information.   What distinguishes the present invention over the prior art is that the time stamping comprises unique time stamped acoustic identifications which can be introduced to the video

YOR920000131   8

signal to allow synchronization without altering the video content. Applicants respectfully request reconsideration of the 112 rejections of Claims 1 and 10. Applicants have again amended the claims to remove the term "original"; but respectfully assert that the remainder of the amended claim language is appropriate.

Claims 1, 3-5 and 7-10 have again been rejected under 35 USC 103 as being unpatentable over Chen in view of Braida; and, Claims 2 and 6 have again been rejected under 35 USC 103 as unpatentable over Chen in view of Braida and further in view of Basu. For the reasons set forth below, Applicants believe that the claims are allowable over the cited art.

The present invention is directed to a method and a system for performing a method for providing synchronization of audio to video comprising processing a video signal, comprising video content, to generate a video output comprising at least one time stamped acoustic identification of the content of the audio associated with the video signal with the video content without altering the video content; processing an audio signal to generate an audio output comprising at least one time stamped acoustic identification of the content of the audio signal; and synchronizing the video signal to the audio signal by adjusting at least one of the signals to align at least one acoustic identification from the video signal with a corresponding acoustic identification from the audio signal. The invention includes, among other features, the generating of a video output

YOR920000131   9

with unaltered video content and at least one time stamped acoustic identification. The invention further includes the steps of generating an audio output with at least one time stamped acoustic identification, and synchronizing the signals by adjusting at least one of the signals in order to align the time stamped acoustic identifications.

The Chen patent is directed to a system and method for improving the appearance of a videophone display by fetching stored visemes which correspond to phonemes in the audio signal and overlaying the fetched visemes over the streamed videophone display in order to make the display appear synchronous with the audio (see: Col. 2, lines 31-34, Col. 3, lines 7-9). The fetched visemes are speaker-independent, meaning that the stored and overlain visemes are not visemes of the displayed speaker who is speaking on the videophone call (see: Col. 4, lines 6-10). After a period of time during which a call is ongoing, the Chen system can store visemes of the actual speaker and then overlay visemes of that speaker over a subsequently-received "live" display to obtain a display with a more consistent appearance (Col. 4, lines 42-44). The Chen system is not synchronizing the streamed video signal to the live audio signal, but is replacing or overlaying the live video signal with stored visemes to match the audio. As such, Chen alters the original video content, unlike the present invention which presents the original video content synchronously with the audio.

YOR920000131   10

The Chen patent does not teach or suggest the claimed feature of processing a video signal to generate a video output comprising video content and at least one time stamped acoustic identification of the content of the video signal. Furthermore, the Chen patent does not teach or suggest that the video content of the video signal be synchronized to the audio signal by adjusting at least one of the signals to align the time stamped acoustic identification from the video signal with a corresponding acoustic identification from the audio signal. Rather, Chen superimposes a different video signal over the live video signal, the different video signal comprising visemes which have been fetched from storage. Applicants respectfully assert that the Chen patent does not teach or suggest the invention as claimed, and in fact teaches away from the claimed invention since Chen expressly teaches that the non-synchronous live video signal be covered up in order to appear synchronous, rather than aligned with the audio signal to actually be synchronous.

Applicants disagree with the Examiner's conclusion, found on page 4 of the Office Action, that the Chen embodiment, wherein a wire frame is used to provide the visual component, reads on the claim language of "without altering the video content". Chen is not processing a video signal having video content without altering that video content. Rather, Chen is simulating or dynamically creating a visual component to which audio will be synchronized. The simulated visual of Chen does not teach or

YOR920000131   11

suggest processing a video signal to generate a video output having at least one time stamped acoustic identification of the content of the audio associated with the video signal along with the video content without altering the video content.

The present invention synchronously displays the unaltered video signal with the audio signal. The present invention can perform synchronization on original video signals whether the signals comprise a live video stream, a motion picture stream, or a video, as explicitly stated in the Specification on page 8, lines 8-12. The original Specification further enumerates eight representative applications of the present invention, from page 13, line 3 through page 14, line 3, wherein audio can be synchronized to video content. Applicants respectfully assert that the Chen patent does not teach or suggest the invention as is now claimed.

Applicants respectfully assert that neither the Braida patent nor the Basu patent provides the teachings which are missing from the Chen patent. Neither Braida nor Basu teaches or suggests processing a video signal to create a video output comprising unaltered video content along with time stamp acoustic identification of the content, processing an audio signal to create an audio output of time stamped acoustic identification, and synchronizing the video to the audio signals by adjusting at least one to align the acoustic identifications in the signals.

YOR920000131   12

The Braida patent has been cited for time stamping. Applicants respectfully assert that, even if one were to modify the Chen patent teachings with the Braida time stamping, the combination would not obviate the present invention. Since Chen superimposes visemes over the video signal based on the audio content, Applicants contend that even if Chen time stamped the original video signal, it would still not provide an unaltered video signal for synchronous display with the audio signal. Rather, Chen would have a time stamped and overlaid video display. Accordingly, the combination would not obviate the invention as claimed in Claims 1, 3-5, and 7-10.

With regard to the rejections of Claims 2 and 6, the Applicants rely on the above arguments with regard to the combined teachings of Chen and Braida. Moreover, the addition of the Basu patent teachings regarding the use of a Viterbi algorithm for synchronization, would not render the claim language obvious. Applicants contend that even if Chen was modified to include the Basu use of a Viterbi algorithm, it would still not arrive at a system and method to provide an unaltered video signal for synchronous display with an audio signal. Rather, Chen would have Viterbi-synchronized audio with superimposed, altered video display. Accordingly, the combination would not obviate the invention as claimed in Claims 2 and 6.

YOR920000131   13

Based on the foregoing amendments and arguments, Applicants respectfully request entry of the amendments, withdrawal of the 112 and 103 rejections, and issuance of the claims.

Respectfully submitted,

P. Cohen, et al

Anne Vachon Dougherty
Attorney for Applicants
Reg. No. 30,374

YOR920000131   14